National Institute of Neurological Disorders and Stroke

Parkinson's Disease Biomarkers Program

The search for treatments for Parkinson's disease has been slowed by the reality that symptoms—including uncontrollable shaking, rigidity, and impaired balance—do not appear until well after the disease has begun to change the brain. Since symptoms get worse over time, finding a signature, or biomarker, of Parkinson's at its onset could lead to earlier treatments and improved outcomes for the more than one million people in the United States afflicted with the disease.

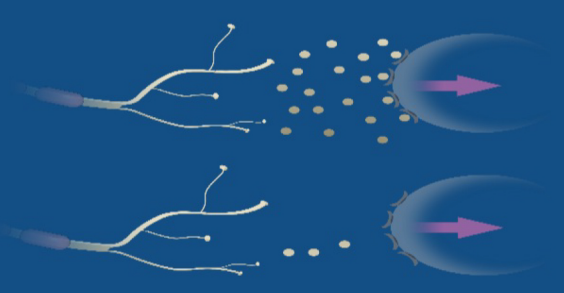
Parkinson's is characterized by a loss of neurons in a brain area called the substantia nigra

Program Highlights

- Launched in January 2013 by the National Institute of Neurological Disorders and Stroke (NINDS)
- Goal: Collect biological samples and brain imaging data from 1,500 individuals
- Research groups around the U.S. share data to discover and validate biomarkers to predict onset and progression of Parkinson's disease

1,000th patient enrolled in July 2014

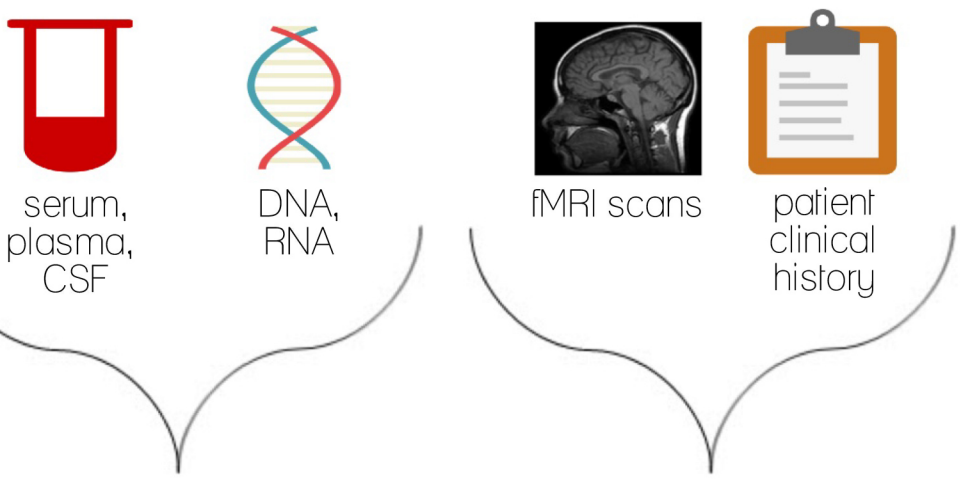
Dopamine levels in a normal (top) and a Parkinson's affected neuron (bottom)

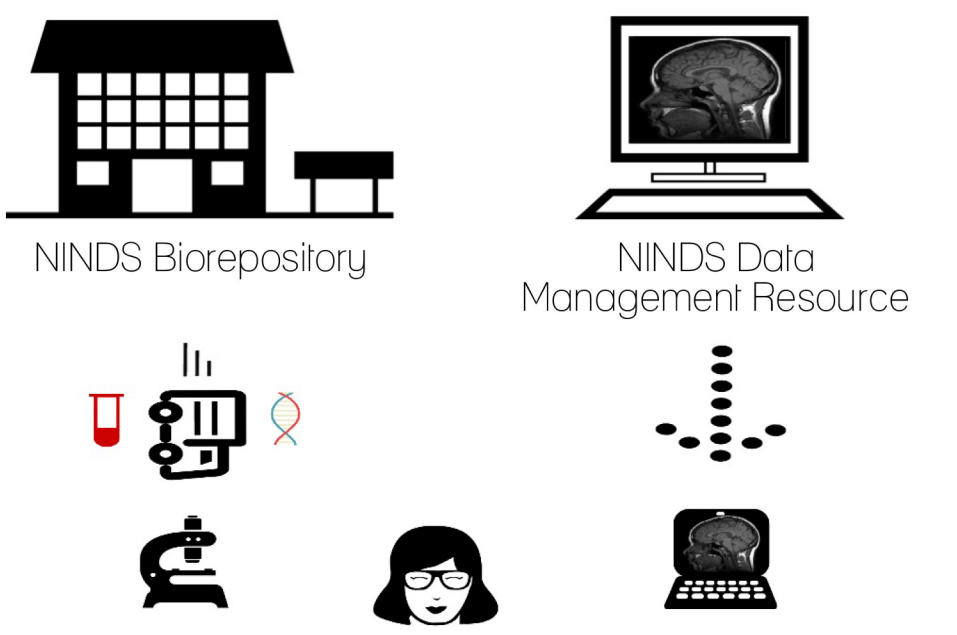


Biomarker = a biological signature, such as a protein found in blood, which can be measured to track disease progression and/or risk; a good example is cholesterol, which is often used as a biomarker for heart disease.

Biospecimen Collection

Samples collected from each subject can include:

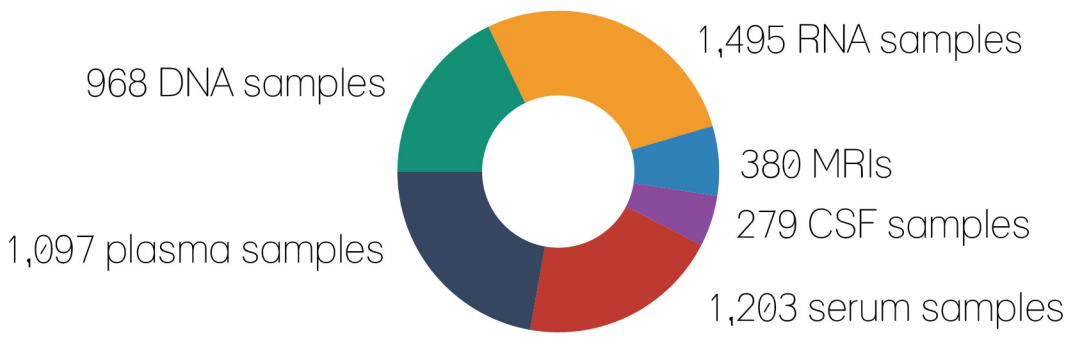




Researchers across the U.S. can access de-identified patient data and request samples from the biorepository and study these resources to search for biomarkers

Biomarker discovery and validation can speed up development of treatments for Parkinson's disease

Samples collected as of July 2014



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